

L4 ANSWER 6 OF 10 CA COPYRIGHT 2002 ACS
AN 126:147550 CA
TI Manufacture of construction **blocks** from granular material and a binder
IN Alexandre, Jacques
PA Sollac S.A., Fr.
SO Fr. Demande, 9 pp.
CODEN: FRXXBL
DT Patent
LA French
IC ICM E04C001-00
ICS C04B028-08; C04B018-14
CC 58-2 (Cement, Concrete, and Related Building Materials)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	-----	-----	-----	-----
PI	FR 2735804	A1	19961227	FR 1995-7548	19950623
	FR 2735804	B1	19970718		

AB In this process, in which the green blocs are allowed to harden, the binder consists of milled steelmaking **slags**, and the blocs are hardened by heat-treatment in a atm. enriched in CO₂. The blocs contain >18% granules.

ST converter steelmaking **slag** building bloc; **carbon dioxide** heat treating **slag**

IT Concrete
Construction materials

(**blocks**; compns. contg. binder and granular converter slags heat-treated in **carbon dioxide**-contg.
atm. for manuf. of)

IT Controlled atmospheres
(**carbon dioxide**-contg.; compns. for concrete bloc
manuf. contg. binder and granular converter **slags**
heat-treated in)

IT Binders
(compns. for concrete bloc manuf. contg. granular converter slags heat-treated in **carbon dioxide**-contg.
atm. and)

IT Slags
(converter, granular, heat-treated **carbon dioxide**-contg. atm.; concrete **blocks** from compns. contg. manuf. of
binder and)

IT Steelmaking slags
(granular, heat-t

L3 ANSWER 38 OF 54 CA COPYRIGHT 2002 ACS

AN 93:119314 CA

TI Building material from converter **slag**

IN Ebihara, Koji; Osumi, Koji

PA Sumitomo Metal Industries, Ltd., Japan

SO Jpn. Kokai Tokyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC C04B023-00

CC 58-5 (Cement and Concrete Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 55042216	A2	19800325	JP 1978-112663	19780912
	JP 58009778	B4	19830222		

AB High-strength building materials are made from converter **slags** (.ltoreq.10 mm) by mixing with K₂CO₃ or Na₂CO₃ 1-3 and water 5-10%, molding at 50-150 kg/cm² (molding pressure), and treating with flue gases for **carbonation**, and curing. Thus, crushed converter **slag** contg. CaO 40.6, SiO₂ 9.1, MgO 6.7, Al₂O₃ 1.6, MnO 6.5, and FeO 19.7% was mixed with K₂CO₃ 1 and water 10%, compacted at 100 kg/cm², and treated with flue gases (CO₂ 22, N₂ 70%) from a lime calcinator at 300-400.degree. for 2 days to obtain **blocks** having compressive strength 305 kg/cm².

ST building **block** converter **slag**

IT Flue gases

(converter **slag** treatment with, for **carbonation** in building **block** manuf.)

IT Building materials

(**blocks**, from converter **slags**, by crushing and **carbonation** with flue gases)

IT Slags

L4 ANSWER 7 OF 10 CA COPYRIGHT 2002 ACS

AN 122:320897 CA

TI Paving **blocks** and their manufacture

IN Numata, Tetsushi; Myake, Tatsuro; Hoshi, Hideaki

PA Nippon Kokan K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C04B040-02

ICS B32B013-00; C04B028-02; E01C005-06

CC 58-4 (Cement, Concrete, and Related Building Materials)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07048186	A2	19950221	JP 1993-130900	19930601
	JP 2988196	B2	19991206		
PRAI	JP 1993-129695		19930531		

AB The **blocks** have a 1st layer of an aq. mixt. contg. coarse aggregates and a binder comprising a Ca based cementing agent, slaked lime, and/or water quenched blast furnace **slag**; a 2nd layer of an aq. mixt. contg. fine aggregates, a pigment, and a binder comprising a Ca based cementing agent, slaked lime, and/or water quenched blast furnace **slag**; and a hard carbonate surface layer formed by curing in CO₂ within 72 h after molding. The **blocks** are prep'd. by casting mixts. for the 1st and 2nd layers successively into a mold, unmolding, and hardening in CO₂.

ST paving **block** carbonated surface

IT Cement

Pavements and Roads

L4 ANSWER 9 OF 10 CA COPYRIGHT 2002 ACS
AN 101:41698 CA
TI **Blocks** of highly-basic manganese **slags** by
carbonization
IN Gasik, M. I.; Parimonchik, I. B.; Gasik, M. M.; Matyushenko, V. N.;
Nuriev, E. B.
PA Dnepropetrovsk Metallurgical Institute, USSR
SO U.S.S.R.
From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1984, (13), 75.
CODEN: URXXAF
DT Patent
LA Russian
IC C22B001-242
CC 54-2 (Extractive Metallurgy)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	-----	-----	-----	-----

PI SU 1084321 A1 19840407 SU 1983-3538842 19830111

AB Highly basic Mn-**slag blocks** are prep'd. by cooling and
moistening the **slag**, and then carbonizing it with a CO₂-contg.
gas. The technol. is simplified and the efficiency increased by blowing
steam through the **slag** melt at 1400-1450.degree., cooling the
melt to 850-900.degree., and then carrying out the cooling and moistening
simultaneously with carbonization in 2 stages. Blowing with a mixt. of
CO₂-contg. gas and steam is initially in a 1:(3.5-4) ratio, and then at
625-675.degree. in a 4.5:1 ratio until the hardening of the **blocks**

ST manganese **slag** blowing **carbon dioxide**

IT **Slags**

(manganese high-basicity, controlled cooling of, **carbon**
dioxide and steam blowing in)

IT Steam

(manganese **slag** blowing with)

IT 124-38-9, uses and miscellaneous

RL: USES (Uses)

(manganese **slag** blowing with)

IT 7439-96-5, uses and miscellaneous

RL: USES (Uses)

(**slags** contg., blowing treatment of, **carbon**
dioxide and steam in)

L3 ANSWER 32 OF 54 CA COPYRIGHT 2002 ACS
AN 106:161654 CA
TI Use of dolomitic limestone for the manufacture of lime-sand bricks and other autoclave-cured silicate building materials, II. Study of the hydration curing of magnesium oxide in the presence of carbonate ions
AU Kaminskas, A.
CS All-Union Res. Inst. Therm. Insul., Vilnius, SU-232657, USSR
SO TIZ (1987), 111(1), 36-41
CODEN: TTZED8; ISSN: 0170-0146
DT Journal
LA German
CC 58-6 (Cement, Concrete, and Related Building Materials)
AB In the prepn. of lime-sand bricks and **blocks** from pressed mixts. prep'd. from partially hydrated dolomitic limestone (SiO_2 5.70, Al_2O_3 1.80, Fe_2O_3 1.66, CaO 50.05, MgO 35.10, P_2O_5 0.68, ignition loss 2.65, and free CaO 42.10%) in the presence of CO_3^{2-} in the curing system, the optimal conditions for MgO hydration curing were shifted toward higher temps. After short-term selective carbonation of CaO followed by one-step autoclave curing, the molded products attained high strength. Molded products contg. granulated **slags** (SiO_2 36.25 or 37.90, Al_2O_3 7.57 or 10.87, Fe_2O_3 0.59 or 0.33, CaO 44.42 or 40.80, and MgO 5.77 or 7.57%) attained high strength after steam curing at only 95-100.degree..
ST magnesium oxide hydration lime sand brick; **carbonation** lime sand brick; **slag** strength development brick
IT **Slags**
(granulated, in lime-sand brick, strength development in relation to)
IT Bricks
(lime-sand, prepn. of, magnesium oxide hydration in, **carbonate** effect on)
IT Limestone, uses and miscellaneous
RL: USES (Uses)
(dolomitic, lime-sand brick from,

L4 ANSWER 10 OF 10 CA COPYRIGHT 2002 ACS

AN 1:6662 CA

OREF 1:1611f-h

TI Marble and Stone from **Slag**

SO Am. Contractor (1907), 28, 45

DT Journal

LA Unavailable

CC 20 (Cements, Mortars, and Building Materials)

AB A process has lately been perfected in England by which a very good imitation of lithographic stone and marble can be obtained artificially. Blast-furnace **slag** is crushed and ground to a fine powder and mixed with quicklime, seven parts **slag** to one of lime. This is thoroughly amalgamated in a revolving mixer and subsequently "pugged" with an excess of water to a creamy consistency. This is then subjected to very heavy pressure in iron molds, squeezing out nearly all the water, and formed into **blocks** of the consistency of chalk or stiff marl. When dry the **blocks** are placed in iron cylinders from which the air is exhausted. When a complete vacuum is obtained **carbon dioxide** is introduced and allowed to permeate the stone for three days. This treatment completely recarbonates the hydroxide of calcium binding the mass into a hard rock, closely resembling lithographic stone. If for **slag** a basis of white limestone is used a fine grade of marble is produced which takes a high polish and seems to possess all the properties of the natural rock.

=> d his

(FILE 'HOME' ENTERED AT 15:07:43 ON 22 MAY 2002)

FILE 'CA' ENTERED AT 15:07:46 ON 22 MAY 2002

L1 436191 S BLOCK?
L2 1203 S L1 AND SLAG?
L3 54 S L2 AND (CARBONAT? OR CARBONATION)
L4 10 S L2 AND CARBON(W) DIOXIDE

FILE 'STNGUIDE' ENTERED AT 15:17:45 ON 22 MAY 2002

=>

L3 ANSWER 1 OF 54 CA COPYRIGHT 2002 ACS
AN 136:329380 CA
TI Development of large steelmaking **slag blocks** using a new **carbonation** process
AU Isoo, T.; Takahashi, T.; Okamoto, N.; Fukuhara, M.
CS Fukuyama Works, NKK Corporation, Fukuyama, 721-8510, Japan
SO Advances in Cement Research (2000), 12(3), 97-101
CODEN: ACEREN; ISSN: 0951-7197
PB Thomas Telford Ltd.
DT Journal
LA English
CC 58-1 (Cement, Concrete, and Related Building Materials)
Section cross-reference(s): 55
AB Porous 1 m³ **slag blocks** were produced by **carbonation** of fine steelmaking **slag** over a period of 12 days. The compressive strength and bulk d. of the **blocks** were 18.4 .+- .3.3 MPa and 2.4 g/cm³, resp. To make a large **block**, the optimum amt. of water and bulk d. of the compact were 5.3-6.3 wt.% and 2.30-2.37 g/cm³, resp. The **carbonation** reaction occurred homogeneously in the **blocks**, and the amt. of CO₂ that reacted with the **slag** was apprx.6 wt.% at all depths from the **block** surface. When left exposed to various weather conditions for 1 yr, the **blocks** showed no cracks or degrdn.
ST steelmaking **slag carbonation block** prodn
IT **Slags**
 (steelmaking; development of large steelmaking **slag blocks** using **carbonation** process)
IT 124-38-9, Carbon dioxide, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
 (development of large steelmaking **slag blocks** using **carbonation** process)

Approved

L3 ANSWER 10 OF 54 CA COPYRIGHT 2002 ACS
AN 133:33681 CA
TI Creation and enrichment of colonies of marine algae by using artificial stone as cultivation bed
IN Takahashi, Tatsuhito; Isso, Norio; Kato, Makoto; Nakajima, Hirohisa; Tanabe, Haruyoshi
PA Nippon Kokan Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM A01K061-00
ICS A01G033-00; C04B032-00
CC 58-4 (Cement, Concrete, and Related Building Materials)
Section cross-reference(s): 10
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000157095	A2	20000613	JP 1998-353865	19981127
AB	Artificial stone blocks bonded with CaCO ₃ obtained by carbonation of powdery and/or granular materials contg. uncarbonated Ca are temporarily submerged close to marine algae colonies for implantation of marine algae on the surfaces of the blocks . The implanted blocks are transferred as seed blocks to predetd. places and addnl. blocks are arranged around the seed blocks for creation of new colonies. The uncarbonated Ca-contg. materials may be concrete, cement, mortar, and/or refractory, and the artificial stone blocks may also contain steelmaking slag .				
ST	marine algae cultivation bed artificial				

A handwritten signature, appearing to read "C. P. Smith", is enclosed within an oval outline.